

Bayesian approach to extreme-value statistics based on conditional maximum-entropy method

Abe S.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd. Recently, the conditional maximum-entropy method (abbreviated as C-MaxEnt) has been proposed for selecting priors in Bayesian statistics in a very simple way. Here, it is examined for extreme-value statistics. For the Weibull type as an explicit example, it is shown how C-MaxEnt can give rise to a prior satisfying Jeffreys' rule.

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References

- [1] Coles S 2001 An Introduction to Statistical Modeling of Extreme Values (Berlin: Springer-Verlag)
- [2] Berger J O 1993 Statistical Decision Theory and Bayesian Analysis 2 (New York: Springer-Verlag)
- [3] Jeffreys H 1946 Proc. R. Soc. London Ser. A 186 453
- [4] Jaynes E T 1968 IEEE Trans. Syst. Sci. Cybern. SSC-4 227
- [5] Abe S 2014 EPL 108 40008
- [6] Beck C and Cohen E G D 2003 Physica A 322 267
- [7] Abe S, Beck C and Cohen E G D 2007 Phys. Rev. E 76 031102
- [8] Abe S 2014 Found. Phys. 44 175
- [9] Khinchin A I 1957 Mathematical Foundations of Information Theory (New York: Dover)